

Sebastian Muntean

List of Publications by Year in descending order

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77
papers

970
citations

516215

16
h-index

476904

29
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79
all docs

79
docs citations

79
times ranked

520
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|---|-----|-----------|
| 1 | Analysis of emerging technologies in the hydropower sector. Renewable and Sustainable Energy Reviews, 2019, 113, 109257. | 8.2 | 177 |
| 2 | Unsteady Pressure Analysis of a Swirling Flow With Vortex Rope and Axial Water Injection in a Discharge Cone. Journal of Fluids Engineering, Transactions of the ASME, 2012, 134, . | 0.8 | 105 |
| 3 | Analysis and Prevention of Vortex Breakdown in the Simplified Discharge Cone of a Francis Turbine. Journal of Fluids Engineering, Transactions of the ASME, 2010, 132, . | 0.8 | 55 |
| 4 | Failure analysis of a Francis turbine runner. IOP Conference Series: Earth and Environmental Science, 2010, 12, 012115. | 0.2 | 55 |
| 5 | Mathematical modelling of swirling flow in hydraulic turbines for the full operating range. Applied Mathematical Modelling, 2011, 35, 4759-4773. | 2.2 | 51 |
| 6 | Assessing the energy potential of modernizing the European hydropower fleet. Energy Conversion and Management, 2021, 246, 114655. | 4.4 | 48 |
| 7 | Axisymmetric Swirling Flow Simulation of the Draft Tube Vortex in Francis Turbines at Partial Discharge. International Journal of Fluid Machinery and Systems, 2009, 2, 295-302. | 0.5 | 36 |
| 8 | Experimental and Numerical Investigation of the Precessing Helical Vortex in a Conical Diffuser, With Rotor-Stator Interaction. Journal of Fluids Engineering, Transactions of the ASME, 2016, 138, . | 0.8 | 33 |
| 9 | Flow-Feedback Method for Mitigating the Vortex Rope in Decelerated Swirling Flows. Journal of Fluids Engineering, Transactions of the ASME, 2013, 135, . | 0.8 | 32 |
| 10 | Unsteady Simulations of the Flow in a Swirl Generator, Using OpenFOAM. International Journal of Fluid Machinery and Systems, 2011, 4, 199-208. | 0.5 | 28 |
| 11 | Proper Orthogonal Decomposition of Self-Induced Instabilities in Decelerated Swirling Flows and Their Mitigation Through Axial Water Injection. Journal of Fluids Engineering, Transactions of the ASME, 2017, 139, . | 0.8 | 27 |
| 12 | Computation of stress distribution in a Francis turbine runner induced by fluid flow. Computational Materials Science, 2012, 64, 253-259. | 1.4 | 20 |
| 13 | Unsteady pressure measurements of decelerated swirling flow in a discharge cone at lower runner speeds. IOP Conference Series: Earth and Environmental Science, 2014, 22, 032008. | 0.2 | 20 |
| 14 | A Novel Passive Method to Control the Swirling Flow with Vortex Rope from the Conical Diffuser of Hydraulic Turbines with Fixed Blades. Applied Sciences (Switzerland), 2019, 9, 4910. | 1.3 | 19 |
| 15 | Experimental investigations of the unsteady flow in a Francis turbine draft tube cone. IOP Conference Series: Earth and Environmental Science, 2010, 12, 012007. | 0.2 | 18 |
| 16 | Modelling and optimization of the velocity profiles at the draft tube inlet of a Francis turbine within an operating range. Journal of Hydraulic Research/De Recherches Hydrauliques, 2016, 54, 74-89. | 0.7 | 18 |
| 17 | Failure assessment of the shaft of a pumped storage unit. Fatigue and Fracture of Engineering Materials and Structures, 2014, 37, 807-820. | 1.7 | 16 |
| 18 | Velocity and pressure fluctuations induced by the precessing helical vortex in a conical diffuser. IOP Conference Series: Earth and Environmental Science, 2014, 22, 032009. | 0.2 | 11 |

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|----|--|-----|-----------|
| 19 | Unsteady pressure measurements and numerical investigation of the jet control method in a conical diffuser with swirling flow. IOP Conference Series: Earth and Environmental Science, 2010, 12, 012017. | 0.2 | 10 |
| 20 | Validation of mathematical models for predicting the swirling flow and the vortex rope in a Francis turbine operated at partial discharge. IOP Conference Series: Earth and Environmental Science, 2010, 12, 012051. | 0.2 | 10 |
| 21 | Investigation of the Plunging Pressure Pulsation in a Swirling Flow with Precessing Vortex Rope in a Straight Diffuser. IOP Conference Series: Earth and Environmental Science, 2016, 49, 082010. | 0.2 | 10 |
| 22 | A New Approach in Numerical Assessment of the Cavitation Behaviour of Centrifugal Pumps. International Journal of Fluid Machinery and Systems, 2011, 4, 104-113. | 0.5 | 8 |
| 23 | Influence of the velocity field at the inlet of a Francis turbine draft tube on performance over an operating range. IOP Conference Series: Earth and Environmental Science, 2012, 15, 032008. | 0.2 | 8 |
| 24 | Hydrodynamic Design of a Storage Pump Impeller using Inverse Method and Experimental Investigation of the Global Performances. Wasserwirtschaft, 2015, 105, 28-32. | 0.3 | 7 |
| 25 | A variational model for swirling flow states with stagnant region. European Journal of Mechanics, B/Fluids, 2016, 55, 104-115. | 1.2 | 7 |
| 26 | Decelerated Swirling Flow Control in the Discharge Cone of Francis Turbines. , 2009, , 89-96. | | 7 |
| 27 | Surrogate runner model for draft tube losses computation within a wide range of operating points. IOP Conference Series: Earth and Environmental Science, 2014, 22, 012022. | 0.2 | 6 |
| 28 | Scenarios for refurbishment of a hydropower plant equipped with Francis turbines. Renewable Energy and Environmental Sustainability, 2016, 1, 30. | 0.7 | 6 |
| 29 | Numerical assessment of pulsating water jet in the conical diffusers. AIP Conference Proceedings, 2017, , . | 0.3 | 6 |
| 30 | The Impact of Water Hammer on Hydraulic Power Units. Energies, 2022, 15, 1526. | 1.6 | 6 |
| 31 | Numerical investigation of the cavitational behaviour into a storage pump at off design operating points. IOP Conference Series: Earth and Environmental Science, 2010, 12, 012068. | 0.2 | 5 |
| 32 | Experimental investigations of the swirling flow in the conical diffuser using flow-feedback control technique with additional energy source. IOP Conference Series: Earth and Environmental Science, 2012, 15, 062043. | 0.2 | 5 |
| 33 | A model for precessing helical vortex in the turbine discharge cone. IOP Conference Series: Earth and Environmental Science, 2014, 22, 022024. | 0.2 | 5 |
| 34 | LDV measurements of the velocity field on the inlet section of a pumped storage equipped with a symmetrical suction elbow for variable discharge values. IOP Conference Series: Earth and Environmental Science, 2014, 22, 032017. | 0.2 | 5 |
| 35 | Numerical assessment of a novel concept for mitigating the unsteady pressure pulsations associated to decelerating swirling flow with precessing helical vortex. AIP Conference Proceedings, 2015, , . | 0.3 | 5 |
| 36 | Flow-Feedback for Pressure Fluctuation Mitigation and Pressure Recovery Improvement in a Conical Diffuser with Swirl. International Journal of Fluid Machinery and Systems, 2011, 4, 47-56. | 0.5 | 5 |

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|----|--|-----|-----------|
| 37 | Mathematical, numerical and experimental analysis of the swirling flow at a Kaplan runner outlet. IOP Conference Series: Earth and Environmental Science, 2012, 15, 032001. | 0.2 | 4 |
| 38 | Hydrodynamic Investigations in a Swirl Generator Using a Magneto-Rheological Brake. Advanced Structured Materials, 2017, , 209-218. | 0.3 | 4 |
| 39 | Experimental Investigation of the Unsteady Pressure Field in Decelerated Swirling Flow with 74° Sharp Heel Elbow. Journal of Physics: Conference Series, 2017, 813, 012046. | 0.3 | 4 |
| 40 | Experimental Investigations of a Magneto-Rheological Brake Embedded in a Swirl Generator Apparatus. Advanced Structured Materials, 2019, , 265-279. | 0.3 | 4 |
| 41 | Influence of the Reshaped Elbow on the Unsteady Pressure Field in a Simplified Geometry of the Draft Tube. Energies, 2021, 14, 1393. | 1.6 | 4 |
| 42 | Experimental Investigations of MR Fluids in Air and Water Used for Brakes and Clutches. Advanced Structured Materials, 2017, , 197-207. | 0.3 | 4 |
| 43 | Mitigation of pressure fluctuations in the discharge cone of hydraulic turbines using flow-feedback. IOP Conference Series: Earth and Environmental Science, 2010, 12, 012067. | 0.2 | 3 |
| 44 | Fatigue Behaviour of Stainless Steel Used for Turbine Runners. Advanced Engineering Forum, 0, 8-9, 413-420. | 0.3 | 3 |
| 45 | A Mathematical Model for the Swirling Flow Ingested by the Draft Tube of Francis Turbines. Wasserwirtschaft, 2015, 105, 23-27. | 0.3 | 3 |
| 46 | 3D Numerical Simulation versus Experimental Assessment of Pressure Pulsations Using a Passive Method for Swirling Flow Control in Conical Diffusers of Hydraulic Turbines. IOP Conference Series: Earth and Environmental Science, 2016, 49, 082018. | 0.2 | 3 |
| 47 | Hydrodynamic Analysis of the Flow in an Axial Rotor and Impeller for Large Storage Pump. IOP Conference Series: Earth and Environmental Science, 2016, 49, 032016. | 0.2 | 3 |
| 48 | Hydrodynamic Analysis of the Flow Field Induced by a Symmetrical Suction Elbow at the Pump Inlet. IOP Conference Series: Earth and Environmental Science, 2016, 49, 032014. | 0.2 | 3 |
| 49 | Experimental Analysis of the Global Performances for a Pump with Symmetrical Suction Elbow at Two Speeds. Energy Procedia, 2017, 112, 225-231. | 1.8 | 3 |
| 50 | In situ Measurements on the Electrical Motors of Hydraulic Pumps Installed in a Wastewater Station. , 2018, , . | | 3 |
| 51 | Integrity Analysis of the Rainwater Pump Impeller. MATEC Web of Conferences, 2018, 188, 04005. | 0.1 | 3 |
| 52 | Francis turbine with tandem runners: a proof of concept. IOP Conference Series: Earth and Environmental Science, 2019, 240, 022012. | 0.2 | 3 |
| 53 | Estimation of the Stress Intensity Factor for 3D Cracked T-joint. , 2013, , 273-280. | | 3 |
| 54 | Mixing interface algorithm for 3D turbulent flow analysis of the GAMM Francis turbine. , 2004, , 359-372. | | 3 |

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|----|--|-----|-----------|
| 55 | A swirl generator case study for OpenFOAM. IOP Conference Series: Earth and Environmental Science, 2010, 12, 012056. | 0.2 | 2 |
| 56 | Analysis of the flow field into a two stages and double entry storage pump taking into account two geometries of stator blades. IOP Conference Series: Earth and Environmental Science, 2010, 12, 012016. | 0.2 | 2 |
| 57 | Proper orthogonal decomposition method in swirling flows applications. , 2013, , . | | 2 |
| 58 | Numerical simulation of the swirl generator discharge cone at lower runner speeds. , 2013, , . | | 2 |
| 59 | Analysis of Drying Kiln Aerodynamics Based on a Full Three-Dimensional Turbulent Numerical Computation. Drvna Industrija, 2016, 67, 53-64. | 0.3 | 2 |
| 60 | Experimental and numerical analysis of decelerated swirling flow from the discharge cone of hydraulic turbines using pulsating jet technique. IOP Conference Series: Earth and Environmental Science, 2019, 240, 022010. | 0.2 | 2 |
| 61 | A benchmark test case for swirling flows: design of the swirl apparatus, experimental data, and numerical challenges. IOP Conference Series: Earth and Environmental Science, 2019, 240, 072004. | 0.2 | 2 |
| 62 | Optimization of the hydrofoil cascade and validation with quasi-analytical solution for hydraulic machinery. IOP Conference Series: Earth and Environmental Science, 2010, 12, 012075. | 0.2 | 1 |
| 63 | Experimental analysis of a pump equipped with an axial rotor with variable speed. IOP Conference Series: Earth and Environmental Science, 2019, 240, 032021. | 0.2 | 1 |
| 64 | Failure analysis of the rainwater axial pumps installed in a wastewater pumping station. IOP Conference Series: Earth and Environmental Science, 2019, 240, 032022. | 0.2 | 1 |
| 65 | Vortex Breakdown in Decelerated Swirling Flows. , 2019, , . | | 1 |
| 66 | Experimental Investigations of a MR Clutch for a Centrifugal Pump. Advanced Structured Materials, 2019, , 253-263. | 0.3 | 1 |
| 67 | Investigation and Analysis of the Flow Field Induced by a Symmetrical Suction Elbow at the Pump Inlet. , 2019, , . | | 1 |
| 68 | Efficient solver for swirling flow problems in ducts with variable radius. Proceedings in Applied Mathematics and Mechanics, 2013, 13, 441-442. | 0.2 | 0 |
| 69 | A Multi-Purpose Vision-Equipped-Remotely-Operable Rig for Hydro-Units Monitoring. Advanced Engineering Forum, 2013, 8-9, 175-184. | 0.3 | 0 |
| 70 | A method for data handling numerical results in parallel OpenFOAM simulations. AIP Conference Proceedings, 2015, , . | 0.3 | 0 |
| 71 | Numerical analysis of the temperature field in a magneto-rheological brake. AIP Conference Proceedings, 2015, , . | 0.3 | 0 |
| 72 | Swirling Flow Computation at the Trailing Edge of Radial-Axial Hydraulic Turbines. IOP Conference Series: Earth and Environmental Science, 2016, 49, 082012. | 0.2 | 0 |

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|----|--|-----|-----------|
| 73 | Evaluation of the mechanical properties and failure mechanism of fibres formed in municipal wastewater systems. IOP Conference Series: Materials Science and Engineering, 2018, 416, 012038. | 0.3 | 0 |
| 74 | Numerical simulation of an axial rotor with variable speed in a pump impeller. AIP Conference Proceedings, 2018, , . | 0.3 | 0 |
| 75 | Rainwater propeller pumps structural integrity. International Journal of Structural Integrity, 2021, 12, 645-665. | 1.8 | 0 |
| 76 | Software Solution for Efficiency Assessment of the Hydraulic Pumps in Service. , 2019, , . | | 0 |
| 77 | Analysis of a Centrifugal Pump Equipped With an Axial Rotor With Variable Speed. , 2019, , . | | 0 |